

CLAIMS

1. A recording/reproducing device comprising:
a recording/reproducing portion for performing recording and
5 reproducing of information on and from a recording medium; and
a control portion for controlling operations of the
recording/reproducing portion,
wherein the control portion controls the recording/reproducing
portion such that medium identification information that enables the
10 recording medium to be distinguished from another recording medium is
recorded repeatedly in a plurality of locations in an area where
structural characteristic information of the recording medium is
recorded within a management data area on the recording medium.
- 15 2. The recording/reproducing device according to claim 1,
wherein the area where the structural characteristic information
is recorded is provided in an error correction unit made of a plurality of
sectors of the recording medium.
- 20 3. The recording/reproducing device according to claim 2, wherein
the error correction unit is an ECC block.
4. The recording/reproducing device according to any one of claims 1
to 3,
25 wherein, when recording the medium identification information
in the area where the structural characteristic information is recorded,
the control portion determines whether medium identification
information already has been recorded in the area and controls the
recording/reproducing portion to perform recording of medium
30 identification information if the medium identification information has

not been recorded.

5. The recording/reproducing device according to any one of claims 1 to 4, further comprising:

5 an identification information generating portion for generating at least part of the medium identification information,

wherein the recording/reproducing portion records the medium identification information based on the information generated by the identification information generating portion.

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6. The recording/reproducing device according to any one of claims 1 to 4, further comprising:

15 a sending/receiving portion for sending and receiving information to and from a host device that gives an instruction for the recording and reproducing,

wherein the recording/reproducing portion records information containing at least part of the information received from the host device via the sending/receiving portion on the recording medium as the medium identification information.

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7. The recording/reproducing device according to any one of claims 1 to 3,

25 wherein, when recording the medium identification information in the area where the structural characteristic information is recorded, the control portion determines whether medium identification information has already been recorded in the area, and if the medium identification information has been recorded, then the same medium identification information is recorded in the area.

30 8. The recording/reproducing device according to any one of claims 1

to 3, further comprising a memory,

wherein, when formatting the recording medium, the control portion determines whether medium identification information has been recorded in the area of the recording medium where the structural characteristic information is recorded, and if the medium identification information has been recorded, then the medium identification information is stored in the memory, and after the formatting is complete, the medium identification information stored in the memory is recorded again in the area.

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9. A recording/reproducing method comprising:

a step of accessing an area where structural characteristic information of a recording medium is recorded within a management data area on the recording medium; and

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a step of repeatedly recording medium identification information that enables the recording medium to be distinguished from another recording medium in a plurality of locations in the area where the structural characteristic information is recorded.

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10. The recording/reproducing method according to claim 9,

wherein the area where the structural characteristic information is recorded is provided in an error correction unit made of a plurality of sectors of the recording medium.

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11. The recording/reproducing method according to claim 10, wherein the error correction unit is an ECC block.

12. The recording/reproducing method according to any one of claims 9 to 11, further comprising:

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before recording the medium identification information in the

area where the structural characteristic information is recorded, a step of determining whether medium identification information has already been recorded in the area,

5 wherein the step of recording the medium identification information is performed when the medium identification information has not been recorded.

13. The recording/reproducing method according to any one of claims 9 to 11, further comprising:

10 before performing the step of recording the medium identification information, a step of generating at least part of the medium identification information.

14. The recording/reproducing method according to any one of claims 15 9 to 11, further comprising:

 before performing the step of recording the medium identification information, a step of receiving at least part of the medium identification information from a host device,

20 wherein, in the step of recording the medium identification information, information containing at least part of information received from the host device is recorded on the recording medium as the medium identification information.

15. The recording/reproducing method according to any one of claims 25 9 to 11, further comprising:

 before performing the step of recording the medium identification information, a step of determining whether medium identification information has already been recorded in the area where the structural characteristic information is recorded,

30 wherein, if the medium identification information already has

been recorded, then the medium identification information identical with the one that has already been recorded is recorded in the area in the step of recording the medium identification information.

- 5 16. The recording/reproducing method according to any one of claims 9 to 11, further comprising:

 a step of determining whether medium identification information has been recorded in the area where the structural characteristic information is recorded on the recording medium and storing the
10 medium identification information in a memory if the medium identification information has been recorded;

 a step of formatting the recording medium; and

 a step of recording the medium identification information stored in the memory again in the area where the structural characteristic
15 information is recorded after the formatting step is complete.

17. A recording/reproducing method comprising:

 a step of accessing an area where structural characteristic information of a recording medium is recorded within a management
20 data area on the recording medium; and

 a step of reproducing medium identification information that has been recorded repeatedly in a plurality of locations in the area where the structural characteristic information is recorded and that enables the recording medium to be distinguished from another recording medium
25 from at least one of the plurality of locations.

18. The recording/reproducing method according to claim 17,

 wherein the step of reproducing the medium identification information includes a step of trying reproduction of the medium
30 identification information again by accessing another one of the plurality

of locations if there is a reproduction error in one of the plurality of locations.

19. The recording/reproducing method according to claim 17,

5 wherein the step of reproducing the medium identification information includes

a step of reproducing all of the structural characteristic information recorded in a plurality of locations of the recording medium,

a step of performing an error correction operation to the
10 reproduced structural characteristic information, and

a step of extracting medium identification information from structural characteristic information that has undergone the error correction operation and been reproduced normally.

15 20. The recording/reproducing method according to claim 19, further comprising:

a step of counting the number of pieces of structural characteristic information that have undergone the error correction operation and been reproduced normally and determining that there is
20 an abnormality in the recording medium if the number does not satisfy a predetermined standard.

21. A recording medium on which information is recorded, comprising:

25 a user data area where user data is recorded and a management data area where management data is recorded,

wherein medium identification information that enables the recording medium to be distinguished from another recording medium is recorded repeatedly in a plurality of locations in an area where
30 structural characteristic information of the recording medium is

recorded within the management data area.

22. The recording medium according to claim 21,
wherein the area where the structural characteristic information
5 is recorded is provided in an error correction unit made of a plurality of
sectors of the recording medium.

23. The recording medium according to claim 22, wherein the error
correction unit is an ECC block.

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24. A host device that instructs a recording/reproducing device to
record and reproduce information using a recording medium, comprising:
a sending/receiving portion for sending and receiving information
to and from the recording/reproducing device, and
15 an identification information generating portion for generating at
least part of the medium identification information that enables the
recording medium to be distinguished from another recording medium,
the medium identification information being recorded repeatedly in a
plurality of locations in an area where structural characteristic
20 information of the recording medium is recorded within a management
data area of the recording medium.